

## **Active Dosimeter - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)**

Market Report | 2025-04-28 | 120 pages | Mordor Intelligence

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### **Report description:**

The Active Dosimeter Market is expected to register a CAGR of 6.8% during the forecast period.

#### Key Highlights

- The working environments that require dosimeters may include hospitals, imaging clinics, laboratories, industrial facilities, and some mines (i.e., mineral sand mines). Individuals working in nuclear power plants, nuclear research facilities, and medical laboratories must continually monitor their exposure to harmful radiation. According to OSHA's Ionizing Radiation standard, employers must conduct dose monitoring whenever a worker enters a restricted area and receives, or is likely to receive, a dose that exceeds 25% of the applicable occupational limit (5% for workers under the age of 18) in any calendar quarter. Hence, they are the primary users of the electronic personal dosimeter.
- The market studied is growing substantially, primarily due to the rise in demand for these devices. The increasing awareness regarding harmful radiation and its ill effects is expected to market the market's growth.
- However, the market growth is restrained by the high cost of the device. Further, the different readings because of electromagnetic fields might impact the device's accountability, which may be a setback for the market. The device is sensitive to mechanical instability, leading to an inaccurate or false reading. This is hampering the growth of the active dosimeters market.
- The COVID-19 pandemic led to enormous disruptions in supply chains across industries globally, due to which many businesses worldwide halted or reduced operations to help combat the spread of the virus. The pandemic impacted the passive electronic components market, leading to decreased operation levels across the component production and raw material production levels across the supply chain. This represents a fall in sales in many regions and countries.

#### Active Dosimeter Market Trends

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## Medical Application is Expected to Hold Significant Share

- In medical radiation dosimetry, the amount and type of ionizing radiation that is exposed to and attenuated by the human body are measured, computed, and evaluated. Radiation dosimeters are used to measure radiation in a variety of solid, gas, and liquid states; these are primarily classified as ionization chamber, semiconductor, and diamond detector types. These detectors track radiation administered both externally during external beam radiation therapy and internally through ingestion or inhalation of radioactive substances.
- One of the professions with the greatest occupational doses is the medical staff involved in interventional treatments. APDs, or active personal dosimeters, may greatly enhance exposure during interventional treatments. However, employing APDs during interventional operations can provide a number of issues. This is caused by the radiation's particular energy and angular distribution as well as its pulsed character. The type of interventional treatment, working methods and personal habits, protective equipment employed, and features of the X-ray field are just a few of the factors that affect occupational exposure and the radiation spread around the patient.
- Silicon diodes are the detector of choice for most active dosimeters, but frequently their calibration is neglected since the radiation beam characteristics in which they are calibrated and those in which they are employed are very different. The survey uncovered issues with active dosimeter use, such as its dependability in hospitals' common pulsed x-ray fields. The situation would probably improve with guidance from regulatory bodies and professional groups on the testing and calibration of these devices used in hospitals.
- Since radiography is essential for diagnosing COVID-19 cases and determining prognosis, nearly all suspected patients in clinical practice must have diagnostic evaluation, with many commonly undergoing repeated CT exams in a short period of time. Hospitals in Wuhan have several pieces of CT equipment installed, and radiographers from all across China have flocked there to provide a hand. Only after receiving radiation protection training and donning personal dosimeters for monitoring external radiation exposure can radiation personnel report to their posts.

## North America is Expected to Hold Significant Share

- The North American region is expected to account for a significant share of the active dosimeter market due to its rising demand across multiple end users, such as healthcare, industrial, and defense.
- The regulatory standards in the region regarding dosimeters are aiding the market for active dosimeters. Currently, the US Department of Labor Occupational Safety and Health Administration (OSHA) regulatory practices specify the application of dosimeters with A-weighting, 5 dB exchange rate, and SLOW exponential time averaging.
- Furthermore, the increasing dependency on nuclear plants for energy resulted in the active construction of new plants, increasing the number of employees working at nuclear plants. With the high risk of radiation at the nuclear plants, the need for understanding the radiation exposure by all the workers has become necessary, thereby driving the growth of the market studied.
- As a part of the country's policy, the United States is increasing its expenditure on the healthcare industry, which is anticipated to reach as high as 20% of the GDP by 2025, further increasing the demand for active dosimeter equipment across radiology and cardiology departments, thereby driving the market growth during the forecast period.
- Further more, Owing to the increasing demand for dosimeters to tap into a broader customer base and technological ecosystem, the region is witnessing several innovations, collaborations, and acquisitions by prominent companies. In November 2021, Mirion Technologies Inc., a global provider of detection, measurement, analysis, and monitoring solutions to the medical, nuclear, defense, and research industries, acquired CHP Dosimetry, a dosimetry services distributor based in the United States. CHP Dosimetry is a current Mirion customer, with CHP Dosimetry providing customers with access to many Mirion-branded products, including the Instadose dosimetry monitoring platform, which is Mirion's hallmark innovation.

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## Active Dosimeter Industry Overview

The Active Dosimeter Market is moderately competitive and consists of major players such as Landauer Inc., Mirion Technologies Inc., Thermo Fisher Scientific Inc., Fuji Electric Co. Ltd., Polimaster Inc., etc. However, with advancements in the assessment and measurement of the electronic component, new players are increasing their market presence, and prominent players are adopting acquisition strategies to expand their companies.

- July 2022 - Mirion Technologies has announced the launch of the Mirion medical brand comprised of the organization's healthcare-focused Dosimetry Services, Sun Nuclear, CIRS, Biodex, and Capintec business units. Furthermore, the establishment of the Mirion Medical group reinforces the Mirion commitment to leveraging its expertise in ionizing radiation for healthcare applications.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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